
DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service****50 CFR Part 17****Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for *Pityopsis Ruthii* (Ruth's Golden Aster)**

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The U.S. Fish and Wildlife Service proposes to list *Pityopsis ruthii* (Ruth's golden aster), a plant endemic to Polk County, Tennessee, as an endangered species under the authority contained in the Endangered Species Act of 1973, as amended. *Pityopsis ruthii* is endangered by water quality degradation, toxic chemical spills, water level and flow regime alterations, and potentially from trampling associated with recreational use of its habitat. This proposal, if made final, would implement Federal protection provided by the Endangered Species Act of 1973, as amended, for *Pityopsis ruthii*. The Service seeks data and comments from the public on this proposal.

DATES: Comments from all interested parties must be received by January 22, 1985. Public hearing requests must be received by January 4, 1985.

ADDRESSES: Comments and materials concerning this proposal should be sent to Mr. Warren T. Parker, Field Supervisor, Endangered Species Field Station, U.S. Fish and Wildlife Service, 100 Otis Street, Room 224, Asheville, North Carolina 28801. Comments and materials received will be available for

public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT:

Mr. Robert R. Currie at the above address (704/259-0321 or FTS 672-0321).

SUPPLEMENTARY INFORMATION:**Background**

Pityopsis ruthii was first collected by Albert Ruth, a Knoxville botanist, near the Hiwassee River in Polk County, Tennessee. Ruth often visited this area between 1894 and 1902 and collected this unusual plant on several occasions (Bowers, 1972a). J. K. Small (1897) named the species in honor of Ruth, including it in the genus *Chrysopsis* in his original description. In 1933, Small transferred the species to the genus *Pityopsis*. Several alternative taxonomic treatments have been proposed for this and associated species (Harms, 1969; Bowers, 1972b; Cronquist, 1980; Semple *et al.*, 1980). Regardless of which genus (*Pityopsis*, *Heterotheca* or *Chrysopsis*) the species is included in, all authors have recognized the specific distinctness of this unique plant. The inclusion of this species in the genus *Pityopsis*, as advocated by Semple *et al.* (1980), is widely supported and is followed here.

Following Ruth's original collections, *Pityopsis ruthii* was not collected again for almost 50 years. Harms (1969) speculated that the species might be extinct. Bowers (1972a) reported that *Pityopsis ruthii* had been rediscovered on the Hiwassee River by himself and two other Knoxville botanists and stated that W. J. Dress had also collected the species in 1953. The Dress collection had not been reported in the literature, and his collections were housed in herbaria outside the region. This resulted in a 19-year lapse in knowledge of Dress' discovery. In 1976, A. White discovered a small population of *Pityopsis ruthii* on the Ocoee River, Polk County, Tennessee (White, 1978). Despite searches of apparently suitable habitat on the adjacent Tellico and Conasauga River systems by White (1977), and Wofford and Smith (1980), *Pityopsis ruthii* is only known to occur on short reaches of the Ocoee and Hiwassee Rivers.

Pityopsis ruthii is a fibrous-rooted perennial which grows only in the soil-filled cracks of phyllite boulders in and adjacent to the Ocoee and Hiwassee Rivers. The stems are from one to three decimeters tall and bear long narrow leaves covered with silvery hairs. The yellow flowers appear in a paniculate inflorescence in late August and

September. Its fruits (achenes) develop a few weeks after the flowers fade (Wofford and Smith, 1980).

Federal Government actions on this species began with Section 12 of the Endangered Species Act of 1973, which directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 94-51, was presented to Congress on January 9, 1975. The Service published a notice in the *Federal Register* (40 FR 27823) of its acceptance of the report of the Smithsonian Institution as a petition within the context of Section 4(c)(2) [now section 4(b)(3)] of the Act, and of its intention thereby to review the status of the plant taxa named within. On June 16, 1976, the Service published a proposed rule in the *Federal Register* (41 FR 24523) to determine approximately 1,700 vascular plant species to be endangered species pursuant to Section 4 of the Act. The list of 1,700 plant taxa was assembled on the basis of comments and data received by the Smithsonian Institution and the Service in response to House Document No. 94-51 and the July 1, 1975, *Federal Register* publication. *Pityopsis ruthii* was included in the July 1, 1975, notice of review and the June 16, 1976, proposal. General comments received in relation to the 1976 proposal were summarized in the April 26, 1978, *Federal Register* (48 FR 17909) publication, which also determined 13 plant species to be endangered or threatened species. On December 10, 1979 (44 FR 70796), the Service published a notice withdrawing the June 16, 1976, proposal along with four other proposals that had expired due to a procedural requirement of the 1978 Amendments. On December 15, 1980, the Service published a revised notice of review for native plants in the *Federal Register* (45 FR 82479); *Pityopsis ruthii* was included in that notice as a category-1 species. Category-1 species are those for which data in the Service's possession indicate listing is warranted.

Section 4(b)(3)(B) of the Endangered Species Act, as amended in 1982, requires the Secretary to make certain findings on pending petitions within 12 months of their receipt. Section 2(b)(1) of the 1982 Amendments further requires that all petitions pending on October 13, 1982, be treated as having been newly submitted on that date. This was the case for *Pityopsis ruthii* because of the acceptance of the 1975 Smithsonian report as a petition. On October 13, 1983, the Service found that the petitioned listing of *Pityopsis ruthii* was warranted, and that although other

pending proposals had precluded its proposal, expeditious progress was being made to add this and other species to the list. Notice of this finding was published in the *Federal Register* on January 20, 1984 (49 FR 2485). Publication of the present proposal constitutes the Service's finding that the petitioned action is warranted in accordance with section 4(b)(3)(B)(ii) of the Act.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations promulgated to implement the listing provisions of the Act (codified at 50 CFR Part 424; under revision to accommodate the 1982 Amendments—see proposal at 48 FR 36062, August 8, 1983) set forth the procedures for adding species to the Federal lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Pityopsis ruthii* (Small) Small (Ruth's golden aster) [SYN: *Chrysopsis ruthii* Small and *Heterotheca ruthii* (Small) Harms], are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* The two known populations of *Pityopsis ruthii* occur on short reaches of rivers in which water regimes are controlled by upstream dams. The dams are operated by the Tennessee Valley Authority. Natural water flows in the Hiwassee River, through the area where the species occurs, have been basically eliminated since construction of the Appalachia Dam in 1943 (White, 1977). Water usually bypasses this area through a large pipeline between the dam and the powerhouse which is located several miles downstream of the dam. Apart from temporary releases to flush toxic chemical spills from the river, the prime source of water for this river reach is inflow from small tributaries and surface runoff from the adjacent slopes (Wofford and Smith, 1980; Parrish, 1981). This elimination of natural flow cycles with annual scouring of the boulders on which *Pityopsis ruthii* grows has permitted more competitive species to invade the boulders and encroach and overshadow the riverbanks (White, 1977). *Pityopsis ruthii* has little shade tolerance and is replaced by other species when sunlight is reduced by 50 percent (Wofford and Smith, 1980; White, 1977). *Pityopsis ruthii* has adapted to and is not displaced by the high water flows which periodically remove this more competitive vegetation

and scour the rocks and riverbanks. If present trends continue it would appear that *Pityopsis ruthii* will eventually be displaced from the Hiwassee River.

The Ocoee River population of fewer than 500 plants (Wofford and Smith, 1980) appears to be subject to detrimental impacts of flood stage flows during the growing season. Present water management on the Ocoee River results in frequent releases that approximate the high flow conditions that would naturally occur only a few times per year. Although periodic high flows appear to be essential for maintenance of the *Pityopsis ruthii* habitat, the regular high flows on the Ocoee River may be exceeding the species' capability to withstand this normally beneficial action. A closer correlation between water management and the needs of *Pityopsis ruthii* is needed.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* Current recreational use of the Hiwassee River is limited to hiking and fishing on the banks adjacent to the *Pityopsis ruthii* population. Current levels of activity do not appear to be adversely affecting the species. Should levels of these activities increase in the future, they could threaten the species if they are not managed in a way which minimizes direct impacts such as trampling. Recreational use of the Ocoee River primarily consists of white-water sports like rafting. Since this activity takes place in the river, it would not appear to be impacting *Pityopsis ruthii* at this time. Observers and photographers of these white-water activities have trampled Ruth's golden aster in the past (Collins, pers. comm., 1984). *Pityopsis ruthii* is not currently in commercial trade as an ornamental plant. However, Farmer (1977) indicates that the species was excellent potential for horticultural use and public awareness of the species could generate a demand.

C. *Disease or predation.* Not applicable to this species at this time.

D. *The inadequacy of existing regulatory mechanisms.* Although there is no legislation in the State of Tennessee which provides protection for *Pityopsis ruthii*, the Committee for Tennessee Rare Plants (1978) recognizes the species as an endangered component of the State's flora. The Tennessee Department of Conservation also recognizes Ruth's golden aster as endangered in its current (1984) revision of the Official Rare Plant List of Tennessee issued pursuant to the Governor's Executive Order on March 7, 1980, and compiled with the assistance

of a scientific advisory committee and with other public input. Removal of plants without a permit from the National Forest is prohibited by regulation. However, this regulation is difficult to enforce. The Endangered Species Act would provide additional protection for the species.

E. *Other natural and manmade factors affecting its continued existence.* Water quality in the Ocoee River is drastically reduced on a regular basis because of mining activities in the Copperhill area, upstream of the *Pityopsis ruthii* population. Sediment levels are generally high, and acidity levels as low as pH 1.2 have been recorded in the Ocoee River (White, 1977). These water quality problems have adversely impacted the aquatic fauna of this reach of the Ocoee River and are probably adversely affecting the *Pityopsis ruthii* population.

Several spills of toxic chemicals (sulfuric acid) have occurred on the Hiwassee River. In order to flush these chemicals from the river, releases from the Appalachia Dam have been made. These releases have resulted, on at least one occasion (1976), in a loss of seed production for the year (White, 1977).

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to propose this rule. Based on this evaluation, the preferred action is to list *Pityopsis ruthii* as endangered. With only two populations of this species known to exist, it definitely warrants protection under the Act; endangered status seems appropriate because of the threats facing both populations. Critical habitat is not being designated for reasons discussed in the next section.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary designate any habitat of a species which is considered to be critical habitat at the time the species which is considered to be critical habitat at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for *Pityopsis ruthii* at this time. The species has high potential for horticultural use. Increased publicity and the provision of specific location information associated with critical habitat designation could result in taking pressures on Ruth's golden aster. Although removal and reduction to possession of endangered plants from lands under Federal jurisdiction is prohibited by the Endangered Species

Act, such provisions are difficult to enforce effectively. Publication of critical habitat descriptions would make *Pityopsis ruthii* more vulnerable and would increase enforcement problems for the U.S. Forest Service. Increased visits to both populations stimulated by critical habitat designation could also result in trampling problems. Both of the federal agencies involved in managing the habitat of Ruth's golden aster have been informed of the locations of this species and of the importance of protecting it, so no additional benefits from the notification function of critical habitat designation would result. Therefore, it would not be prudent to determine critical habitat for *Pityopsis ruthii* at this time.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for land acquisition and cooperation with the States and requires that recovery actions be carried out for listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the applicable prohibitions are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402, and are now under revision (see proposal at 48 FR 29990; June 29, 1983). Section 7(a)(4) requires Federal agencies to informally confer with the Service on any action that is likely to jeopardize the continued existence of a proposed species. If a species is subsequently listed, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species. If a Federal action may affect a listed species, the responsible Federal agency must enter into formal consultation with the Service.

The U.S. Forest Service (Cherokee National Forest) and the Tennessee Valley Authority have jurisdiction over this species' habitat or essential components of its habitat. Federal activities that could impact *Pityopsis*

ruthii and its habitat in the future include, but are not limited to, the following: management of flow regimes and water levels on the Ocoee and Hiwassee Rivers, timber harvesting, recreational development, channel alterations, road and bridge construction, permits for mineral exploration, and implementation of forest management plans. It has been the experience of the Service that the large majority of Section 7 consultations are resolved so that the species is protected and the project can continue.

The Tennessee Valley Authority, through its Natural Heritage Program, was notified on July 27, 1984, of the Service's intent to propose Ruth's golden aster as endangered, and will provide its comments during the official comment period. The Supervisor of the Cherokee National Forest has been contacted, as well as the Forest Service's Regional Forester (through the Regional Botanist in Atlanta); both have indicated they will comment on the proposal during the official comment period.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 set forth a series of general trade prohibitions and exceptions that apply to all endangered plant species. With respect to *Pityopsis ruthii*, all trade prohibitions of Section 9(a)(2) of the Act, implemented by 50 CFR 17.61, would apply. These prohibitions, in part, would make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of a commercial activity, or sell or offer for sale this species in interstate or foreign commerce. Certain exceptions can apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.62 and 17.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered species under certain circumstances.

Section 9(a)(2)(B) of the Act, as amended in 1982, prohibits the removal and reduction to possession of endangered plant species from areas under Federal jurisdiction. This prohibition will apply to *Pityopsis ruthii*. Permits for exceptions to this prohibition are available through section 10(a) of the Act, until revised regulations are promulgated to incorporate the 1982 Amendments. Proposed regulations implementing this prohibition were published on July 8, 1983 (48 FR 31417). Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Federal Wildlife Permit Office, U.S. Fish and Wildlife

Service, Washington, D.C. 20240 (703/235-1903).

Public Comments Solicited

The Service intends that any final rule adopted will be as accurate and as effective as possible in the conservation of endangered or threatened species. Therefore, any comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning any aspect of these proposed rules are hereby solicited. Comments particularly are sought concerning:

- (1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to *Pityopsis ruthii*;
- (2) the location of any additional populations of *Pityopsis ruthii* and the reasons why any habitat should or should not be determined to be critical habitat as provided by Section 4 of the Act;
- (3) additional information concerning the range and distribution of this species; and
- (4) current or planned activities in the subject area and their possible impacts on *Pityopsis ruthii*.

Final promulgation of the regulation on *Pityopsis ruthii* will take into consideration the comments and any additional information received by the Service, and such communications may lead to adoption of a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Request must be filed within 45 days of the date of the proposal. Such requests must be made in writing and addressed to the Field Supervisor, Asheville Endangered Species Field Station (see ADDRESSES section).

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental

Assessment, as defined under authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to Section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 [48 FR 49244].

Literature Cited

- Bowers, F.D. 1972a. The existence of *Heterotheca ruthii* (Compositae). *Castanea* 37:130-132.
- Bowers, F.D. 1972b. A biosystematic study of *Heterotheca* section *Pityopsis*. Ph.D. Dissertation, University of Tennessee, Knoxville, TN. 188 pp.
- Committee for Tennessee Rare Plants. 1978. The rare vascular plants of Tennessee. *Journal of the Tennessee Academy of Science* 53:128-133.
- Cronquist, A. 1980. Vascular flora of the southeastern United States. Vol. 1. Asteraceae. University of North Carolina Press, Chapel Hill, NC. 281 pp.
- Farmer, R.E., Jr. 1977. Seed Propagation of *Heterotheca ruthii*. *Castanea* 42:146-148.
- Harms, V.L. 1969. A preliminary conspectus of *Heterotheca* section *Pityopsis*. *Castanea* 34:402-409.
- Heifetz, J., and W.L. Milstead. 1979. Status report for *Heterotheca ruthii*. Unpublished report by Southeast Region, U.S. Fish and Wildlife Service, Atlanta, GA.
- Parrish, L.L. 1981. Personal communication by letter to Mr. Dick Biggins (Biologist with the Endangered Species Field Station in Asheville, North Carolina) regarding river flows in the Hiwassee River.
- Semple, J.C., V.C. Blok, and P.P. Heiman. 1980. Morphological, anatomical, habit and habitat differences among the golden aster genera *Chrysopsis*, *Heterotheca*, *Pityopsis* (Compositae-Asteraceae). *Canadian Journal of Botany* 58:147-163.
- Small, J.K. 1897. Studies in the botany of the Southeastern United States. XII. Bulletin of the Torrey Botanical Club 24:493.
- Small, J.K. 1933. Manual of the Southeastern flora. Published by the author. New York. NY. P. 1341.
- White, A.J. 1977. An autecological study of the endangered species, *Heterotheca ruthii*

- (Small) Harms. M.S. Thesis, University of Tennessee, Knoxville, TN. 73 pp.
- White, A.J. 1978. Range extensions of the proposed endangered plant, *Heterotheca ruthii* (Compositae). *Castanea* 43:263.
- Wofford, B.E., and D.K. Smith. 1980. Status report for *Heterotheca ruthii* (Ruth's golden aster). Unpublished report prepared under contract for the U.S. Fish and Wildlife Service, Atlanta, GA.

Author

The primary author of this proposed rule is Mr. Robert R. Currie, Endangered Species Field Station, U.S. Fish and Wildlife Service, 100 Otis Street, Room 224, Asheville, North Carolina 28801 (704/259-0321 or FTS 8/672-0321). Preliminary status information was provided by Mr. J. Heifetz and Dr. W. C. Milstead, formerly of the Service's Southeastern Regional Office, Atlanta, Georgia.

List of Subjects in 50 CFR Part 17

Endangered and threatened Wildlife, Fish, Marine mammals, Plants (agriculture).

Proposed Regulation Promulgation

PART 17—[AMENDED]

Accordingly, it is hereby proposed to amend Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, as set forth below:

1. The authority citation for Part 17 reads as follows:

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*).

2. It is proposed to amend § 17.12(h) by adding the following, in alphabetical order, under the family Asteraceae to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

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Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Asteraceae—Aster family						
<i>Pityopsis ruthii</i> (SYN: <i>Heterotheca ruthii</i> and <i>Chrysopsis ruthii</i>).	Ruth's golden aster	U.S.A. (TN)	E		NA	NA

Dated: November 5, 1984.

G. Ray Arnett,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 84-30439 Filed 11-19-84; 8:45 am]

BILLING CODE 4310-55-M